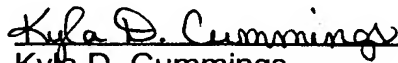


or that no other possibly material information as defined under 37 CFR § 1.56(a) exists.

The patents and/or publications submitted herewith are set forth on the attached Form PTO-1449.

If the sum of \$180.00 is due under 37 CFR § 1.17(p) pursuant to § 1.97, the Commissioner is hereby authorized to charge this fee, and any other fee necessary to make this submission timely, to the Deposit Account No. 20-0782/WEAT/0527.P1.

Respectfully submitted,



Kyla D. Cummings

Registration No. 50,682

MOSER, PATTERSON & SHERIDAN, L.L.P.

3040 Post Oak Blvd. Suite 1500

Houston, TX 77056

Telephone: (713) 623-4844

Facsimile: (713) 623-4846

Attorney for Applicants

Substitute for form 1449A PTO

JAN 14 2005

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Application Number	10/729,510
Filing Date	December 5, 2003
First Named Inventor	William Banning Vail, III
Group Art Unit	3672
Examiner Name	Unknown
Attorney Docket Number	WEAT/0527.P1
Customer No.	36735
Submission Date	January 12, 2005

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of 12

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A1	US-2,167,338	07-25-1939	Murcell	
	A2	US-2,228,503	01-14-1941	Boyd, et al.	
	A3	US-2,370,832	03-06-1945	Baker	
	A4	US-2,379,800	07-03-1945	Hare	
	A5	US-2,414,719	01-21-1947	Cloud	
	A6	US-2,720,267	10-11-1955	Brown	
	A7	US-2,741,907	06-06-1997	Genender, et al.	
	A8	US-3,006,415	10-31-1961	Burns, et al.	
	A9	US-3,041,901	07-03-1962	Knights	
	A10	US-3,054,100	09-11-1962	Jones	
	A11	US-3,090,031	05-14-1963	Lord	
	A12	US-3,111,179	11-19-1963	Albers, et al.	
	A13	US-3,117,636	01-24-1964	Wilcox, et al.	
	A14	US-3,124,023	3-10-1964	Marquis, et al.	
	A15	US-3,131,769	05-05-1964	Rochemont	
	A16	US-3,193,116	07-06-1965	Kenneday, et al.	
	A17	US-3,419,079	12-31-1968	Current	
	A18	US-3,548,936	12-22-1970	Kilgore, et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Number-Kind Code ² (if known)				
	B1	CA 2 335 192	11-30-2001	Kozak		
	B2	DE 3 523 221	02-01-1987	Svetozar		
	B3	DE 3 918 132	12-14-1989	Eriksson		
	B4	EP 0 474 481	03-11-1992	Moody		
	B5	EP 0 087 373	08-31-1983	Plaquin		

Examiner

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		Number-Kind Code ² (if known)			
	A19	US-3,552,507	01-05-1971	Brown	
	A20	US-3,552,848	01-05-1971	Van Wagner	
	A21	US-3,566,505	03-02-1971	Martin	
	A22	US-3,602,302	08-31-1971	Kluth	
	A23	US-3,606,664	09-21-1971	Weiner	
	A24	US-3,635,105	01-18-1972	Dickmann, et al.	
	A25	US-3,680,412	08-01-1972	Mayer, et al.	
	A26	US-3,691,825	09-19-1972	Dyer	
	A27	US-3,696,332	10-03-1972	Dickson, Jr., et al.	
	A28	US-3,776,320	12-04-1973	Brown	
	A29	US-3,776,991	12-04-1973	Marcus	
	A30	US-3,848,684	11-19-1974	West	
	A31	US-3,857,450	12-31-1974	Guier	
	A32	US-3,913,687	10-21-1975	Gyongyosi, et al.	
	A33	US-4,054,332	10-18-1977	Bryan, Jr.	
	A34	US-4,095,865	06-20-1978	Denison, et al.	
	A35	US-4,127,927	12-05-1978	Hauk, et al.	
	A36	US-4,194,383	03-25-1980	Huzyak	

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		Number-Kind Code ² (if known)				
	B6	EP 0 162 000	11-21-1985	Hamilton		
	B7	EP 0 171 144	02-12-1986	Stringfellow, et al.		
	B8	EP 0 285 386	10-05-1988	Haney		
	B9	EP 0 426 123	05-08-1991	Reis, et al.		
	B10	EP 0 525 247	02-03-1993	Willis		

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Application Number	10/729,510
Filing Date	December 5, 2003
First Named Inventor	William Banning Vail, III
Group Art Unit	3672
Examiner Name	Unknown
Attorney Docket Number	WEAT/0527.P1
Customer No.	36735
Submission Date	January 12, 2005

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		Number-Kind Code ² (if known)			
	A37	US-4,227,197	10-07-1980	Nimmo, et al.	
	A38	US-4,241,878	12-30-1980	Underwood	
	A39	US-4,277,197	07-07-1981	Bingham	
	A40	US-4,280,380	07-28-1981	Eshghy	
	A41	US-4,311,195	01-19-1982	Mullins, II	
	A42	US-4,392,534	07-12-1983	Miida	
	A43	US-4,407,378	10-04-1983	Thomas	
	A44	US-4,427,063	01-24-1984	Skinner	
	A45	US-4,437,363	03-20-1984	Haynes	
	A46	US-4,445,734	05-01-1984	Cunningham	
	A47	US-4,449,596	05-22-1984	Boyadjieff	
	A48	US-4,494,424	01-22-1985	Bates	
	A49	US-4,529,045	07-16-1985	Boyadjieff, et al.	
	A50	US-4,570,706	02-18-1986	Pugnet	
	A51	US-4,592,125	06-03-1986	Skene	
	A52	US-4,593,773	06-10-1986	Skeie	
	A53	US-4,605,268	08-12-1986	Meador	
	A54	US-4,625,796	12-02-1986	Boyadjieff	

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		Number-Kind Code ² (if known)				
	B11	EP 0 589 823	03-03-1994	Busink, et al.		
	B12	EP 0 659 975	06-28-1995	Nagaoka, et al.		
	B13	EP 0 790 386	08-20-1997	Newton, et al.		
	B14	EP 0 881 354	04-24-1998	Vercaemen, et al.		
	B15	EP 0 962 384	12-08-1999	Poldervaart		

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Filing Date	December 5, 2003
First Named Inventor	William Banning Vail, III
Group Art Unit	3672
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Attorney Docket Number	WEAT/0527.P1
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U.S. PATENT DOCUMENTS

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		Number-Kind Code ² (if known)			
	A55	US-4,646,827	03-03-1987	Cobb	
	A56	US-4,649,777	03-17-1987	Buck	
	A57	US-4,667,752	05-26-1987	Berry, et al.	
	A58	US-4,676,312	06-30-1987	Mosing, et al.	
	A59	US-4,683,962	08-04-1987	True	
	A60	US-4,691,587	09-08-1987	Farrand, et al.	
	A61	US-4,709,599	12-01-1987	Buck	
	A62	US-4,709,766	12-01-1987	Boyadjieff	
	A63	US-4,738,145	04-19-1988	Vincent, et al.	
	A64	US-4,742,876	05-10-1988	Barthelemy, et al.	
	A65	US-4,759,239	07-26-1988	Hamilton, et al.	
	A66	US-4,765,401	08-23-1988	Boyadjieff	
	A67	US-4,773,689	09-27-1988	Wolters	
	A68	US-4,775,009	10-04-1988	Wittrisch, et al.	
	A69	US-4,781,359	11-01-1988	Matus	
	A70	US-4,788,544	11-29-1988	Howard	
	A71	US-4,791,997	12-20-1988	Krasnov	
	A72	US-4,793,422	12-27-1988	Krasnov	

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Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Number-Kind Code ² (if known)				
	B16	EP 1 256 691	11-13-2002	Hawkins, et al.		
	B17	FR 2 841 293	12-26-2003	Bouygues Offshore		
	B18	GB 2 115 940	09-14-1983	Plaquin		
	B19	GB 2 224 481	09-05-1990	Voeten		
	B20	GB 2 275 486	04-15-1993	Eiane, et al.		

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First Named Inventor	William Banning Vail, III
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		Number-Kind Code ² (if known)			
	A73	US-4,800,968	01-31-1989	Shaw, et al.	
	A74	US-4,806,928	02-21-1989	Veneruso	
	A75	US-4,813,493	03-21-1989	Shaw, et al.	
	A76	US-4,836,064	06-06-1989	Slator	
	A77	US-4,867,236	09-19-1989	Haney, et al.	
	A78	US-4,878,546	11-07-1989	Shaw, et al.	
	A79	US-4,901,069	02-13-1990	Veneruso	
	A80	US-4,936,382	06-26-1990	Thomas	
	A81	US-4,962,579	10-16-1990	Moyer, et al.	
	A82	US-5,009,265	04-23-1991	Bailey, et al.	
	A83	US-5,036,927	08-06-1991	Willis	
	A84	US-5,141,063	08-25-1992	Quesenbury	
	A85	US-5,176,518	01-05-1993	Hordijk, et al.	
	A86	US-5,191,932	03-09-1993	Seefried, et al.	
	A87	US-5,224,540	07-06-1993	Streich, et al.	
	A88	US-5,233,742	08-10-1993	Gray, et al.	
	A89	US-5,245,265	09-14-1993	Clay	
	A90	US-5,251,709	10-12-1993	Richardson	

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		Number-Kind Code ² (if known)				
	B21	GB 2 294 715	08-05-1996	Tibbitts		
	B22	GB 2 349 401	11-01-2000	Roberts, et al.		
	B23	GB 2 352 747	07-02-2001	Davis, et al.		
	B24	GB 2 357 530	06-27-2001	Schulze-Beckinghausen		
	B25	GB 2 372 765	09-04-2002	Head		

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		Number-Kind Code ² (if known)			
	A91	US-5,271,468	12-21-1993	Streich, et al.	
	A92	US-5,305,839	04-26-1994	Kalsi, et al.	
	A93	US-5,332,043	07-26-1994	Ferguson	
	A94	US-5,351,767	10-04-1994	Stogner, et al.	
	A95	US-5,388,651	02-14-1995	Berry	
	A96	US-5,394,823	03-07-1995	Lenze	
	A97	US-5,433,279	07-18-1995	Tassari, et al.	
	A98	US-5,494,122	02-27-1996	Larsen, et al.	
	A99	US-5,501,286	03-26-1996	Berry	
	A100	US-5,503,234	04-02-1996	Clanton	
	A111	US-5,540,279	07-30-1996	Branch, et al.	
	A112	US-5,542,472	08-06-1996	Pringle, et al.	
	A113	US-5,542,473	08-06-1996	Pringle, et al.	
	A114	US-5,553,672	09-10-1996	Smith, Jr., et al.	
	A115	US-5,577,566	11-26-1996	Albright, et al.	
	A116	US-5,645,131	07-08-1997	Trevisani	
	A117	US-5,706,894	01-13-1998	Hawkins, III	
	A118	US-5,791,410	08-11-1998	Castille, et al.	

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		Number-Kind Code ² (if known)				
	B26	GB 709 365	05-19-1954	Standard Oil Development		
	B27	GB 716 761	10-13-1954	Standard Oil Development		
	B28	GB 881 358	11-01-1961	Kammerer, et al.		
	B29	GB 2 350 137	11-22-2000	Baugh, et al.		
	B30	RU 2 079 633	05-20-1997	Abdrakhmanov		

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Application Number	10/729,510
Filing Date	December 5, 2003
First Named Inventor	William Banning Vail, III
Group Art Unit	3672
Examiner Name	Unknown
Attorney Docket Number	WEAT/0527.P1
Customer No.	36735
Submission Date	January 12, 2005

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U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	A119	US-5,803,191	09-08-1998	Mackintosh	
	A120	US-5,813,456	09-29-1998	Milner, et al.	
	A121	US-5,836,395	11-17-1998	Budde	
	A122	US-5,839,515	11-24-1998	Yuan, et al.	
	A123	US-5,850,877	12-22-1998	Albright, et al.	
	A124	US-5,907,664	05-25-1999	Wang, et al.	
	A125	US-5,909,768	06-08-1999	Castille, et al.	
	A126	US-5,971,086	10-26-1999	Bee, et al.	
	A127	US-5,984,007	11-16-1999	Yuan, et al.	
	A128	US-5,988,273	11-23-1999	Monjure, et al.	
	A129	US-6,056,060	05-02-2000	Abrahamsen, et al.	
	A130	US-6,070,500	06-06-2000	Dlask, et al.	
	A131	US-6,079,498	06-27-2000	Lima, et al.	
	A132	US-6,079,509	06-27-2000	Bee, et al.	
	A133	US-6,142,545	11-07-2000	Penman, et al.	
	A134	US-6,161,617	12-19-2000	Gjedebo	
	A135	US-6,173,777	01-16-2001	Mullins	
	A136	US-6,199,641	03-13-2001	Downie, et al.	

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Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Number-Kind Code ² (if known)				
	B31	WO 00/39429	07-06-2000	Pietras		
	B32	WO 00/39430	07-06-2000	Pietras		
	B33	WO 00/46484	08-10-2000	Van Buren, et al.		
	B34	WO 00/66879	11-09-2000	Hawkins, et al.		
	B35	WO 02/081863	10-17-2002	Simpson, et al.		

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		Number-Kind Code ² (if known)			
	A137	US-6,223,823	05-01-2001	Head	
	A138	US-6,227,587	05-08-2001	Terral	
	A139	US-6,275,938	08-14-2001	Bond, et al.	
	A140	US-6,290,432	09-18-2001	Exley, et al.	
	A141	US-6,305,469	10-23-2001	Coenen, et al.	
	A142	US-6,309,002	10-30-2001	Bouligny	
	A143	US-6,349,764	02-26-2002	Adams, et al.	
	A144	US-6,360,633	03-26-2002	Pietras	
	A145	US-6,367,566	04-09-2002	Hill	
	A146	US-6,374,506	04-23-1993	Clay	
	A147	US-6,392,317	05-21-2002	Hall, et al.	
	A148	US-6,429,784	08-06-2002	Beique, et al.	
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	A151	US-6,622,796	09-23-2003	Pietras	
	A152	US-6,648,075	11-18-2003	Badrak, et al.	
	A153	US-6,688,394	02-10-2004	Ayling	
	A154	US-6,691,801	02-17-2004	Juhasz, et al.	

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		Number-Kind Code ² (if known)				
	B36	WO 02/44601	06-06-2002	Appleford, et al.		
	B37	WO 03/087525	10-23-2003	Vincent, et al.		
	B38	WO 93/07358	04-15-1993	Eiane, et al.		
	B39	WO 96/18799	06-20-1996	Stokka		
	B40	WO 98/05844	02-12-1998	Stokka		

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Group Art Unit	3672
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U.S. PATENT DOCUMENTS

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		Number-Kind Code ² (if known)			
	A155	US-6,698,595	03-02-2004	Norell, et al.	
	A156	US-6,725,938	04-27-2004	Pietras	
	A157	US-6,742,596	06-01-2004	Haugen	
	A158	US-6,742,606	06-01-2004	Metcalfe, et al.	
	A159	US-2002/0070842	04-17-2003	Bailey, et al.	
	A160	US-2002/0108748	08-15-2002	Keyes	
	A161	US-2003/0029641	02-13-2003	Meehan	
	A162	US-2003/0056947	03-27-2003	Cameron	
	A163	US-2003/0164250	09-04-2003	Wardley	
	A164	US-2003/0164251	09-04-2003	Tulloch	
	A165	US-2003/0173090	09-18-2003	Cook, et al.	
	A166	US-2003/0213598	11-20-2003	Hughes	
	A167	US-2004/0003944	01-08-2004	Vincent, et al.	
	A168	US-2004/000405	01-01-2004	Fournier, Jr., et al.	
	A169	US-2004/0011534	01-22-2004	Simonds, et al.	
	A170	US-2004/0060697	04-01-2004	Tilton, et al.	
	A171	US-2004/0069500	04-15-2004	Haugen	
	A172	US-2004/0079533	04-29-2004	Buytaert, et al.	

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		Number-Kind Code ² (if known)				
	B41	WO 98/11322	03-19-1998	Gjedebo		
	B42	WO 98/32948	07-30-1998	Pietras		
	B43	WO 99/35368	07-15-1999	Lohbeck, et al.		
	B44	WO 99/41485	08-19-1999	Pietras		
	B45	WO 99/58810	11-18-1999	Abrahamsen, et al.		

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Application Number	10/729,510
Filing Date	December 5, 2003
First Named Inventor	William Banning Vail, III
Group Art Unit	3672
Examiner Name	Unknown
Attorney Docket Number	WEAT/0527.P1
Customer No.	36735
Submission Date	January 12, 2005

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	A173	US-2004/0108142	06-10-2004	Vail, III	
	A174	US-2004/0112646	06-17-2004	Vail	
	A175	US-2004/0118613	06-24-2004	Vail	
	A176	US-2004/0123984	07-01-2004	Vail	
	A177	US-2004/0124015	07-01-2004	Vaile, et al.	
	A178	US-2004/0129456	07-08-2004	Vail	
	A179	US-2004/0140128	07-22-2004	Vail	
	A180	US-2004/0173358	09-09-2004	Haugen	
	A181	US-2004/0216925	11-04-2004	Metcalf, et al.	
	A182	US-2004/0112646	06-17-2004	Vail	
	A183	US-Re 34,063	09-15-1992	Vincent, et al.	
	A184	US-			
	A185	US-			
	A186	US-			
	A187	US-			
	A188	US-			
	A189	US-			
	A190	US-			

FOREIGN PATENT DOCUMENTS

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		Number-Kind Code ² (if known)				
	B46	FR 2 741907	06-06-1997	Leighton		
	B47					
	B48					
	B49					
	B50					

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Application Number	10/729,510
Filing Date	December 5, 2003
First Named Inventor	William Banning Vail, III
Group Art Unit	3672
Examiner Name	Unknown
Attorney Docket Number	WEAT/0527.P1
Customer No.	36735
Submission Date	January 12, 2005

Sheet 11

of 12

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
		DETLEF HAHN, FRIEDHELM MAKOHL, and LARRY WATKINS, Casing-While Drilling System Reduces Hole Collapse Risks, Offshore, Pages 54, 56, and 59, February 1998	
		YAKOV A. GELFGAT, MIKHAIL Y. GELFGAT and YURI S. LOPATIN, Retractable Drill Bit Technology – Drilling Without Pulling Out Drillpipe, Advanced Drilling Solutions Lessons From the FSU; June 2003; Vol. 2, pps. 351-464	
		TOMMY WARREN, SPE, BRUCE HOUTCHENS, SPE, GARRET MADELL, SPE, Directional Drilling With Casing, SPE/IADC 79914, Tesco Corporation, SPE/IADC Drilling Conference 2003	
		LaFleur Petroleum Services, Inc., "Autoseal Circulating Head," Engineering Manufacturing, 1992, 11 Pages	
		Valves Wellhead Equipment Safety Systems, W-K-M Division, ACF Industries, Catalog 80, 1980, 5 Pages	
		Canrig Top Drive Drilling Systems, Harts Petroleum Engineer International, February 1997, 2 Pages	
		The Original Portable Top Drive Drilling System, TESCO Drilling Technology, 1997	
		MIKE KILLALEA, Portable Top Drives: What's Driving The Market?, IADC, Drilling Contractor, September 1994, 4 Pages	
		500 or 650 ECIS Top Drive, Advanced Permanent Magnet Motor Technology, TESCO Drilling Technology, April 1998, 2 Pages	

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10/729,510

December 5, 2003

William Banning Vail, III

3672

Unknown

WEAT/0527.P1

36735

Sheet 12

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Submission Date

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 T^2

500 or 650 HCIS Top Drive, Powerful Hydraulic Compact Top Drive Drilling System, TESCO Drilling Technology, April 1998, 2 Pages

Product Information (Sections 1-10) CANRIG Drilling Technology, Ltd., September 18, 1996

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